DOCUMENT RESUME

ED 258 692 PS 015 061

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TITLE Survey Measurement of Father Involvement in Childrearing: A Reliability and Validity Study.
PUB DATE Apr 85
NOTE 19p.; Paper presented at the Biennial Meeting of the Society for Research in Child Development (Toronto, Ontario, Canada, April 25-28, 1985).
PUB TYPE Reports - Research/Technical (143) -- Speeches/Conference Papers (150)

EDRS PRICE MF01/PC01 Plus Postage.
DESCRIPTORS Child Development; *Child Rearing; Comparative Analysis; Employment; Family Life; *Fathers; Interviews; *Measurement Techniques; Mothers; *Parent Participation; Questionnaires; Socioeconomic Status; Test Reliability; Test Validity

ABSTRACT

The purpose of this paper is to describe a specific method of measuring fathers' childrearing involvement. The conceptual scheme underlying the method addresses involvement in routine child care, play with the child, and school-related interactions. Measures involved the father's share of childrearing (as compared with the mother's) and the father's individual interaction frequency in each area of involvement. The sample, 70 non-black fathers of 6-year-olds, was drawn from the larger database of the Comparative Ecology of Human Development Project at Cornell University. Overall, among child development, socioeconomic, family demographic, and employment variables, the report card scores of male children were most related to measures of interaction frequency with the father. Father's reported interaction frequency with female children was not found to be positively related to report card scores. Family background variables appeared to be related primarily to the father-mother relationship. Fathers with greater education and white-collar occupations took a greater share of routine child care tasks and school-related responsibilities than did men with less education and blue-collar occupations. As compared with mothers, fathers with more children tended to take a smaller share in involvement with each child. Surprisingly, neither father's nor mother's paid work hours per week were related to the father's amount of involvement. The constructed measures were found to be reliable and valid. (RH)

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SURVEY MEASUREMENT OF FATHER INVOLVEMENT IN CHILDREARING: A RELIABILITY AND VALIDITY STUDY

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Paper presented at the Biennial Meeting of the Society for Research in Child Development, Toronto, April 1985.

The support of the Harold Feldman Fellowship Fund and the Cornell Institute for Social and Economic Research are gratefully acknowledged.

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PURPOSE

The amount of involvement of fathers in childrearing has been related to child development outcomes in a variety of areas, including cognitive, academic, social and personality development. Despite its importance, however, there is little agreement on how best to conceptualize and measure amount of childrearing involvement by fathers.

The purpose of this paper is to describe one conceptual scheme and specific method of measurement. The conceptual scheme includes three areas of involvement--

- in routine child care,
- in play with the child,
- and in school-related interactions,

and two types of measures--

- the father's share of childrearing as compared to the mother,
- the father's individual interaction frequency in each area.

These two types of measures in three areas of involvement produce six different measures. The data at hand lacked information for one of the conceptualized measures, however, so five multi-item measures were constructed. They are defined below. Basic reliability and validity analyses follow, which take advantage of the fact that multiple sources of data were used. Lastly, correlations of the measures with selected family background variables and with the child's report card scores are reported.

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Sample

The sample was drawn from the database of a larger study, the Comparative Ecology of Human Development Project at Cornell University. The sample included 70 non-Black fathers of six-year-olds. Each father was employed at least 30 hours per week, and living with the child in a two-parent household. They were selected by door-to-door recruitment of a cross-section of neighborhoods in Syracuse, New York. Forty-six percent of the fathers contacted agreed to participate fully in the study. Non-participation was associated with living in an ethnic neighborhood, having a larger family, and less education. Selected characteristics of the sample:

	Mean	S.D.	Range
Father's Age	36.4	5.0	26-51
Father's Education	13.8	3.0	6-21
Father's Income (1981)	23K	10K	2.4K-60K
Father's paid work hours per week	45.2	8.4	30-77
Mother's paid work hours per week	16.2	16.6	0-50

Fifty-three percent of the mothers were employed outside the home for 10 hours or more per week. Thirty percent of the fathers had blue collar occupations, and the remainder were white collar or professional. Forty-six percent of the fathers had a boy six-year-old, and 54% a girl.

Most recent studies of paternal childrearing involvement have studied fathers of infants, or have used samples of convenience or self-selected samples of highly involved fathers. This study, in contrast, used a randomly selected community sample of fathers of six-year-olds.

Survey Items

Three kinds of items were used.

A. Checklist items from interviews conducted separately with the father and mother.

The checklist asked "Who usually does each chore listed here?"

The responses were coded as follows:

1 = not done by the father.

2 = father helps out.

3 = done by the father and mother equally.

4 = usually done by the father.

The items:

(1b) Dressing and undressing children.
(Asked of father)

(1d) Taking care of sick children.
(Asked of father)

(1L) Putting children to bed.
(Asked of father)

(1m) Washing and bathing children.
(Asked of father)

(2b) Dressing and undressing children.
(Asked of mother)

(2d) Taking care of sick children.
(Asked of mother)

(2L) Putting children to bed.
(Asked of mother)

(2m) Washing and bathing children.
(Asked of mother)

(1f) Playing with children indoors.
(Asked of father)

(1g) Playing with children outdoors.
(Asked of father)

(1j) Taking children on outings.
(Asked of father)

SURVEY ITEMS, continued

(2f) Playing with children indoors.
(Asked of mother)

(2g) Playing with children outdoors.
(Asked of mothers)

(2j) Taking children on outings.
(Asked of mothers)

(1e) Reading to children.
(Asked of father)

(1i) Helping childen with schoolwork.
(Asked of father)

(2e) Reading to children.
(Asked of mother)

(2i) Helping children with schoolwork.
(Asked of mother)

B. Questionnaire responses by the mother and the school teacher. Each was scored dichotemously.

(1) Father attendance at parent-teacher conference is reported/not reported by the mother.

(2) Any contact of father with teacher (e.g. open house night) is reported by the mother.

(3) Father is reported / not reported as the contact parent, by the teacher.

C. Checklist items from an interview with the father. These self-report items were drawn from an overall set of 55 items. The interviewer introduced them with this statement:

"Parents enjoy and do different things with their children. We hav collected from parents a list of possible activities. The list is very long, so don't be surprised if some of the items don't apply to your situation or aren't things you do with your child. Please use the following scale to describe how often you do each activity together with your child."

0 = never
1 = once in a while
2 = a lot
3 = almost every day"

The 12 items used here were:

(10) We play summer sports together.

(19) We play with toys together.

(30) We play outdoors in warm weather together (swings, jungle gym, games, etc.).

(33) We play outdoors during winter together (skating, skiing, games, building snowmen).

(36) We make up stories together.

(38) We play indoor games together.

(6) We practice arithmetic together.

(9) We talk about school together.

(12) We look at picture books together.

(21) We practice writing words and letters together.

(24) We go to school-related activities together.

(28) We practice spelling together.

Multi-Item Measures

1. TASK SHARE IN CHILDCARE:
How much routine childcare the father does, as compared to the mother.

Number of items: 8.
(A1b, A1d, A1L, A1m,
A2b, A2d, A2L, A2m)

Distributional statistics:

Mean	16.3
Standard Deviation	3.9
Range	9 - 24

Mean inter-item correlation: .24
Scale Coefficient Alpha: .72

2. TASK SHARE IN PLAY:
How much the father plays with the child, as compared to the mother.

Number of items: 6.
(A1f, A1g, A1j, A2f, A2g, A2j)

Distributional statistics:

Mean	16.6
Standard Deviation	3.1
Range	7 - 21

Mean inter-item correlation: .25
Scale coefficient alpha .66

3. TASK SHARE IN SCHOOL MATTERS:
How much the father does with the child in school-related matters, as compared to the mother.

Number of items: 7.
(A1e, A1i, A2e, A2i, B1, B2, B3)

Distributional Statistics:

Mean	16.4
Standard deviation	4.3
Range	7 - 25

Mean inter-item correlation: .20
Scale coefficient alpha: .63

4. REPORTED INTERACTION FREQUENCY IN PLAY: The father's self-report of how often he plays with the child.

Number of items: 6.
(C10, C19, C30, C33, C36, C38)

Distributional statistics:

Mean	8.3
Standard deviation	2.7
Range	3 - 17

Mean inter-item correlation: .30

Scale coefficient alpha: .72

5. REPORTED INTERACTION FREQUENCY IN SCHOOL MATTERS: The father's self-report of how often he engages in school-related activities with the child.

Number of items: 6.
(C6, C9, C12, C21, C24, C28)

Distributional statistics:

Mean	8.2
Standard Deviation	2.7
Range	1 - 17

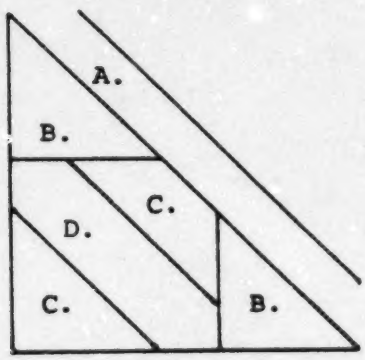
Mean inter-item correlation: .28

Scale coefficient alpha: .70

MultiTrait-MultiSource Matrix:
Estimates of Father's Childrearing
Task-Share, From Two Sources

	Source: Father			Source: Mother		
	F1	F2	F3	M1	M2	M3
Father Estimates:						
F1. Childcare	(.61)					
F2. Play	.20	(.48)				
F3. School	.39	.16	(.38)			
Mother Estimates:						
M1. Childcare	.44	.08	.27	(.63)		
M2. Play	.25	.41	.05	.32	(.63)	
M3. School	.21	.20	.45	.33	.25	(.64)

Terminology Key:



A. Internal reliability of measures: coefficient alpha.

B. MonoSource triangles (heteroTrait-MonoSource correlations).

C. HeteroSource Block (HeteroTrait-HeteroSource correlations).

D. Validity Diagonal (MonoTrait-HeteroSource correlations).

Convergent and Discriminate Validity – The MultiSource-MultiTrait Matrix

The mother and father reports of the father's childrearing participation in three areas were compared. The MultiSource-MultiTrait Matrix analysis of Campbell and Fiske (1959) was used. The following conclusions can be drawn from the accompanying table:

1. The correlations in the HeteroSource Block (averaging .18) give an estimate of the underlying "trait" similarity, that is the degree to which the three measures are part of a single underlying factor. These correlations are not high.

2. The correlations in the MonoSource Triangles (averaging .28) also compare different measures, but this time using a consistent source, either the mother or father. They are higher than the correlations in the HeteroSource Block. This indicates the presence of common source variance, for example the bias due to subject response set.

3. The correlations in the validity diagonal --the mother and father reports on the same phenomenon-- are consistently higher than the other correlations in the matrix. This means that beyond the effects of underlying trait similarity and common source variance there is common variance specific to each area of involvement. This shows measurement convergence from different sources that can discriminate the separate areas of childrearing involvement. This evidence of discriminant validity suggests that the three areas of involvement really are distinctly different, and not simply three measures of the same phenomenon.

4. The correlations in the validity diagonal ranged from 70% to 90% the size of their reliability coefficients. They are high, therefore, compared to the theoretical maximum. This shows excellent convergent validity.

5. Adding the mother and father data together into combined measures is well justified.

6. The Interaction Frequency measures (measures number 4 and 5) included only self-report data from the fathers. The assumption of validity for those self-reports is strengthened by the results of these analyses.

Correlations of the Five Measures of Father Childrearing Involvement

	1	2	3	4	5
1. Task Share--Childcare	-				
2. Task Share--Play	.31	-			
3. Task Share--School	.49	.18	-		
4. Interaction Frequency--Play	.16	.17	-.01	-	
5. Interaction Frequency--School	.14	.08	.16	.58	-

n = 70.

For correlations greater than .30, $p < .01$.

SELECTED CORRELATIONS

	Measures of Father Involvement in Childrearing				
Child Development	1. Task Share Childcare	2. Task Share Play	3. Task Share School	4. Inter. Freq. Play	5. Inter. Freq. School
Report Card Scores, spring of first grade year.					
Boy child (n = 32)	.10	.19	-.12	.39*	.45*
Girl child (n = 38)	-.03	.24	.02	.10	-.10
Socio-Economic Status					
Father Education	.42***	.12	.26*	.23	.17
Father Occupational Class (1 = Blue collar, 2 = white collar)	.37**	.19	.29*	.05	.17
Family Demographics					
Number of Children	-.25*	-.42***	-.35**	.05	-.14
Sex of child (1 = boy, 2 = girl)	-.07	-.29*	-.04	.07	.18
Work-Family Adaptation					
Father paid work hours/week.	.01	-.15	.10	.02	.00
Mother paid work hours/week.	-.06	.09	.09	-.07	-.03
Work Interference (from the father's job, as reported by the mother.)	-.27*	-.42***	-.28*	-.29*	-.36**

* p .05 n = 70

** p .01

*** p .001

Relationship to Other Factors

Overall, the child's report card score was most related to the measures of interaction frequency with the father. In constrast, the family background variables were most related to the father's level of involvement relative to the mother. In other words, the family background characteristics appear to be related primarily to the father-mother relationship (and their arbitration of the childcare task responsibilities), rather than to the father-child relationship.

Child Development. The father's reported interaction frequency with the child was positively related to report card scores for boy children, but not for girls. This is consistent with reports of other researchers (see Radin, 1981). It was the actual amount of interaction that seemed to matter, and not the father's involvement relative to the mother.

Socio-Economic Status. Fathers with greater education and white collar occupations took a greater share of the routine childcare tasks and school-related matters, than did men with less education and blue collar occupations.

Family Demographics. The fathers with more children tended to take a smaller share (as compared to the mother) in involvement with the child. (Number of children in the family was also associated with more father work hours, more use of external childcare, and less father education.)

Many studies have reported that fathers are more involved with sons than with daughters (see Russell & Radin, 1983). In the current study this was true only for the measure of the father's relative share of play with the child. This is the most traditional area of father involvement.

Work-Family Adaptation. Surprisingly, neither the father's or the mother's number of paid work hours each week was related to the father's amount of involvement. But qualitative aspects of the father's job were strongly and consistently related to his involvement, as indicated by the Work Interference variable.* The mother reported greater work interference when the family had more children, the father had a blue collar job, and he worked on a shift other than regular day shift. The father's and mother's actual numbers of work hours were unrelated to the Work Interference variable.

* The Work Interference variable was a summed scale of six items, using responses from a checklist administered to the mother. Sample items were "My husband's working hours interfere with our family life," and "If something comes up at home, my husband can make arrangements to take time off, go in late, or leave early." Internal consistency of the scale was estimated by coefficient alpha at .66.

CONCLUSION

The constructed measures showed adaquate internal reliability. Convergent and discriminate validity were demonstrated by comparison of data from different sources. The two sources --the mother and father-- were able to distinguish the father's level of involvement in the three areas, suggesting that they really are distinctly different domains of involvement. This view was generally upheld by the correlations of the measures among themselves and with external factors. Two possible exceptions should be noted. Task Share in Childcare and Task Share in School matters were strongly associated ($r = .49$) and showed a similar pattern of correlations with external factors. The same was true of the two interaction frequency variables (in play and school matters). The meaning of these convergences is unclear. The association of the second pair may be an artifact, in part, of common source variance. They are the only two measures constructed entirely with self-report data.

The correlations with external factors were consistent with reported research on this topic. The fact that most correlations were restricted to specific measures of father involvement demonstrates the importance of multi-dimensional measurement of father involvement, with conceptually distinct and theoretically meaningful measures. An overall measure would be highly misleading.

The investigator interested in studying the involvement of fathers in childrearing should note two major limitations of the method offered here. First, it measures only amount of involvement, and not quality. Much earlier research has mixed quantity and quality together in measurement, clouding our view of each. The current study avoids that confusion, but is limited to a consideration of quantity of involvement. The only study to attempt to measure each separately and to specifically estimate the independent contribution of amount of involvement is the investigation by Easterbrooks & Goldberg (1984).

Second, other measurement techniques may have special value. Especially noteworthy is Baruch and Barnett's (1983) use of daily diaries, making possible the construction of measures reflecting the father's amount of time alone with the child. Naturalistic observation in the home would be the most difficult method of measurement, but the one with the most face-validity. It has been little used to date to measure the amount of involvement of fathers in childrearing.

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